

# CONTRIBUTIONS FROM THE ROCKY MOUNTAIN HERBARIUM. XI

## NEW PLANTS FROM IDAHO

A V E N N E L S O N

(WITH TWO FIGURES)

The papers in this series numbered IX and X both dealt with novelties secured by Mr. J. FRANCIS MACBRIDE, of New Plymouth, Idaho, in his collections of 1910. The region that proved of greatest interest during that season was certain portions of Owyhee County in the southwestern part of the state. However, he found it possible to visit other counties, and in all of them much of interest was secured.

He spent the season of 1911 also in the field, revisiting some of the favored localities at earlier dates, and going into new fields later in the season. The writer found it possible to join MACBRIDE in his work during the month of July, at which time certain of the lava lands of southern Idaho were investigated. A few days were spent also in the Sawtooth and in the Lemhi National forests. This and a succeeding paper will deal with some of the many interesting things that were found. The plants to be sent out will bear MACBRIDE's numbers, but those secured while both were in the field will have both collectors' names upon the labels.

***Sisyrinchium inalatum***, n. sp.—Roots coarsely fibrous, inordinately numerous from the small cormlike rhizome, widely spreading: stems simple, tufted and crowded, erect, 3–4 dm. high, rather stout, wholly wingless, leafy below, more than twice as long as the longest leaf, about 10-striate: leaves 9–15-nerved, hyaline-margined at the middle only where they are often 6–8 mm. broad, the upper half somewhat divergent, either straight or somewhat arcuate: the outer spathe large and conspicuous, 4–6 cm. long, many-nerved, at its widest part (where it is more or less scarious-margined) 8–10 mm. broad, tapering gradually to the apex, usually surpassing even the mature umbel by nearly half (sometimes more),



the upper one-fourth closed: inner spathe 6-8-nerved, with intermediate nerves, the whole margin broadly hyaline, less than half as long as the outer and shorter than the mature pedicels: scales thin, silvery scarious, from half to nearly as long as the inner spathe, the primary one with 3 conspicuous green nerves: flowers 1-4, medium size, seemingly purple or purplish (the material at hand quite mature and the flowers out of condition): staminal column short: pedicels erect, 25-45 mm. long: capsules 5-6 mm. long, obovoid-globose but evidently trigonous, pale green: seeds about 15, 2 mm. long, flattened-oval, sometimes slightly trigonous or rhomboidal but always compressed and more or less wing-margined, and rugulose-pitted.

It is not clear to what species this is most nearly allied, but it is so strongly marked by its mass of fibrous roots, its stout wingless stems, its broad leaves and spathes, and its large capsule and numerous large winged seeds, that its recognition is not difficult.

MACBRIDE'S no. 909, Silver City, June 17, 1911, is the only collection at hand. This, singularly enough, was secured on a dry open hillside.

**Eriogonum shoshonensis**, n. sp.—Annual, 1-2 dm. high, more or less white-lanate throughout and densely so on the under side of the leaves: stems few to several from the base, slender, dichotomously or tricotomously branched, the lower internode rather long, the succeeding ones gradually shorter, all the branches rather closely erect and therefore appearing fasciculately crowded above: leaves open-rosulate, 1-2 cm. long, on slender petioles as long or longer: bracts minute, triangular-subulate: involucre sessile, in the forks and lateral, and rather numerous on the branchlets, firm and somewhat angled by the thickened greenish nerves that terminate in the very short teeth, nearly tubular, about 2 mm. long, 5-10-flowered: perianth glabrous, on slender unjointed filiform pedicels which protrude about 1 mm.; perianth segments pinkish-white, with greenish midrib, obovate, obtuse, 2 mm. long, the outer noticeably broader than the inner: achene ovoid-triangular, abruptly contracted into a rather slender beak, nearly as long as the body, both together as long as the perianth.

Probably most nearly allied to *E. truncatum* T. & G. Proc. Amer. Acad. 8:173, but differing essentially in habit. That may perhaps best be described



as stemless, with a short stout peduncle from the summit of which spring few-several foliar-bracted rays which are then dichotomous or trichotomous. The involucre of that species is tubular campanulate.

Secured by NELSON and MACBRIDE at Shoshone, Idaho, in the rich lava soil of sagebrush swales, July 18, no. 1186.

**Polygonum emaciatum**, n. sp.—Very slender glabrous silver-green annual, 15–40 cm. high: stem usually simple below but branching dichotomously from near the base and upward, the internodes rather long, noticeably geniculate at the nodes so as to give the stems and branches a zigzag aspect: leaves few, linear, revolute, short, or even reduced to mere bracts: sheaths scarious, irregularly lacerate into a few acuminate awns: flowers in slender, rather open, terminal, spicate racemes; 1 or 2 in the axils of the small bracts which are more or less concealed by the lacerate sheaths; pedicels short, slender, erect, not exserted: perianth segments obovate-cuneate, whitish with a red line, about 3 mm. long: ovary oblong, triangular, as long as the slender styles: mature fruit not at hand.

This suggests *P. tenue* Michx., from which its peculiar skeletonized appearance, its zigzag branching, its very small not cuspidate leaves, and its usually solitary white flowers easily separate it.

The type is MACBRIDE'S no. 1692, "doby" lava slopes, near Sweet, Idaho, August 14, 1911; also by JUNE CLARK, August 18, no. 269, in the same locality.

**Loeflingia verna**, n. sp.—A diminutive, vernal, glabrous annual, 1–5 cm. high, with short filiform root: stem simple or with few-several filiform ascending branches: leaves triangular-subulate, not cuspidate, 2 mm. or less long, opposite at the few nodes: flowers few, solitary-axillary on rather long filiform pedicels forming an open few-flowered cyme: sepals 5, entire, about 3 mm. long, lanceolate, acute, scarious-margined, 1-nerved but neither carinate nor setaceous tipped: petals usually wanting, if present scarious, narrowly lanceolate, as long as the sepals, apparently 3 only: stamens 3 or rarely 5: anthers small, on capillary filaments, stigmas 3 (or 2?), subsessile but distinct: ovary several-ovuled; capsule 1-celled, ovoid-triangular, as long as the sepals: seeds attached to the central-basal placenta on rather long funiculi: embryo moderately curved, accumbent.



It is interesting to add another American species to this singularly erratic genus. I have no doubt that the describer of *L. pusilla* Curran was right in her observation "stamens 5," in spite of the fact that later observers have noted only 3. The plants now at hand show this tendency to vary the number of stamens, and occasionally to develop petals also. Is the following statement of the manuals correct, "ovules attached laterally," or does the wording in this description come closer to the fact?

Secured by MACBRIDE in the grass among the sagebrush, on the plains near New Plymouth, April 24, 1911, no. 773.

**ARABIS LIGNIPES impar**, n. var.—Larger and coarser than the species (*A. lignipes* A. Nels. BOT. GAZ. 30:191. 1900), the lignescent caudex apparently more enduring, often 8–10 cm. high and marked only by the scalelike leaf bases: pubescence extending to the inflorescence and mature pods.

The type of this variety is MACBRIDE's no. 828, dry, stony slopes, on Squaw Creek, Sweet, Idaho, May 8, 1911. I refer here also specimens by C. N. Woods, Hailey, Idaho, no. 9a, 1910.

**DRABA LAPILUTEA** A. Nels. in Coult. & Nels. Man. 222. 1909. *D. yellowstonensis* A. Nels. BOT. GAZ. 30:189. 1900.—Fine specimens of this strongly marked species were secured by NELSON and MACBRIDE on a high mountain near Mackay. It accords very closely with the type except that some of the specimens indicate that it may sometimes at least be perennial. The flowers are truly white and not merely so on fading.

*Draba McCallae* and *D. columbiana* Rydb., Bull. Torr. Bot. Club 29:241. 1901, are very near allies, if indeed they be not both referable to *D. lapilutea*.

**Parrya Huddelliana**, n. sp.—Perennial from very long slender flexible woody roots which penetrate far down among the rocks in subalpine slides: caudex of few-several very slender (almost filiform) somewhat scaly branches which elongate (even to several dm.) sufficiently to bring the herbage out among the surface rocks: leaves rosulate on the tips of the branches of the caudex, with some scales or petioles for a few cm. below, narrowly spatulate-ob lanceolate, 12–25 mm. long, somewhat cinereous with a stellately branched pubescence: inflorescence a short crowded corymbose raceme almost hidden among the leaves but the pedicels elongating in fruit, the few-several large pods appearing umbellate upon rays 10–15 mm. long: pods oblong or bicuneate, 2–3 cm. long, the acute



apex tipped with the short, slender, obscurely lobed stigma, very flat, with perfect septum and the few large seeds in two rows: seeds oval, silvery-white, with a crisped or cellular seed-coat.

To find so perfect an example of a true *Parrya* in this region was a most agreeable surprise. It is nearer to *P. arctica* R. Br. than to *P. macrocarpa* R. Br.

This fine species was discovered by COLUMBUS I. HUDDLE, supervisor of the Lemhi National Forest, Mackay, Idaho. It was growing in the loose black-limestone slide-rock, in Bear Canyon, altitude about 10,000 feet. The specimens, secured in good quantity, were in full fruit. The species is named for its discoverer, to whose courtesy the writer owes the memory of a glorious summer day's splendid collecting in the forest, under Mr. HUDDLE's watchful supervision, July 30, 1911. Distributed under NELSON and MACBRIDE's no. 1466.

**CHYLISMA SCAPOIDEA seorsa**, n. var.—Annual or winter annual, green and glabrous in appearance but minutely puberulent on stems and in the inflorescence: stems branching from the base and upward, 2–3 dm. high, equally leafy up to the rather long naked open raceme, the basal leaves falling away sooner than the upper: leaves oblong to ovate or even obovate, entire or denticulate with callous-tipped teeth.

The best example of this at hand is AVEN NELSON's no. 4125, Evanston, Wyo., July 27, 1897. NELSON and MACBRIDE's no. 1145, King Hill, July 16, 1911, is also referable to this variety.

**Taraxia tikurana**, n. sp.—Perennial from long, and in older plants, rather thick fleshy roots with 1–3 crowns, strictly acaulescent, green but under a lens sparsely and minutely appressed hirsutulous: leaves 8–15 cm. long (including the petiole), narrowly oblanceolate in outline, pinnately deeply and irregularly toothed, the rounded sinuses often extending to the midrib; the slender petiole shorter than the blade: flowers rather numerous, yellow; the calyx tube 6–10 cm. long, slender: calyx lobes narrowly lance-oblong, about 8 mm. long, twice as long as the obconic tube: petals large, obovate, emarginate or rounded, 10–14 mm. long: stamens unequal, the shorter stamens only about half as long as the others; anthers attached about one-third of their length from the base: capsule small, subulate, ridged by the rounded sutures; seeds in two rows, irregularly oblong.



This splendid species is nearest to *T. breviflora* Nutt., from which it is so different that there is no need to emphasize the differences.

MACBRIDE secured it in Jordan Valley, near Silver City, June 22, 1911; NELSON and MACBRIDE'S no. 1302, from Tikura, Blaine Co., is taken as the type. It seems to occur in the rich soil of river bottoms.

***Cicuta cinicola*, n. sp.**—From a thick stout root (?)<sup>1</sup> widely and freely branched, 2 m. (more or less) high: leaves large; the lower often 1 m. long, bipinnate with some of the larger pinnae trifoliate, gradually reduced and simplified upward, the uppermost very small and trifoliate or simple; the leaflets of the lower leaves from ovate to broadly lanceolate, 12–20 cm. long including the long stout petioles, coarsely serrate, the teeth broadly triangular and abruptly apiculate; upward the leaflets become gradually smaller and narrower, the uppermost lance-linear and only 2–3 cm. long; involucre wanting or of a few green or rarely scarious-margined bracts, or sometimes a single foliar bract 2–4 cm. long: pedicels numerous, 3–7 mm. long; the involucels of many

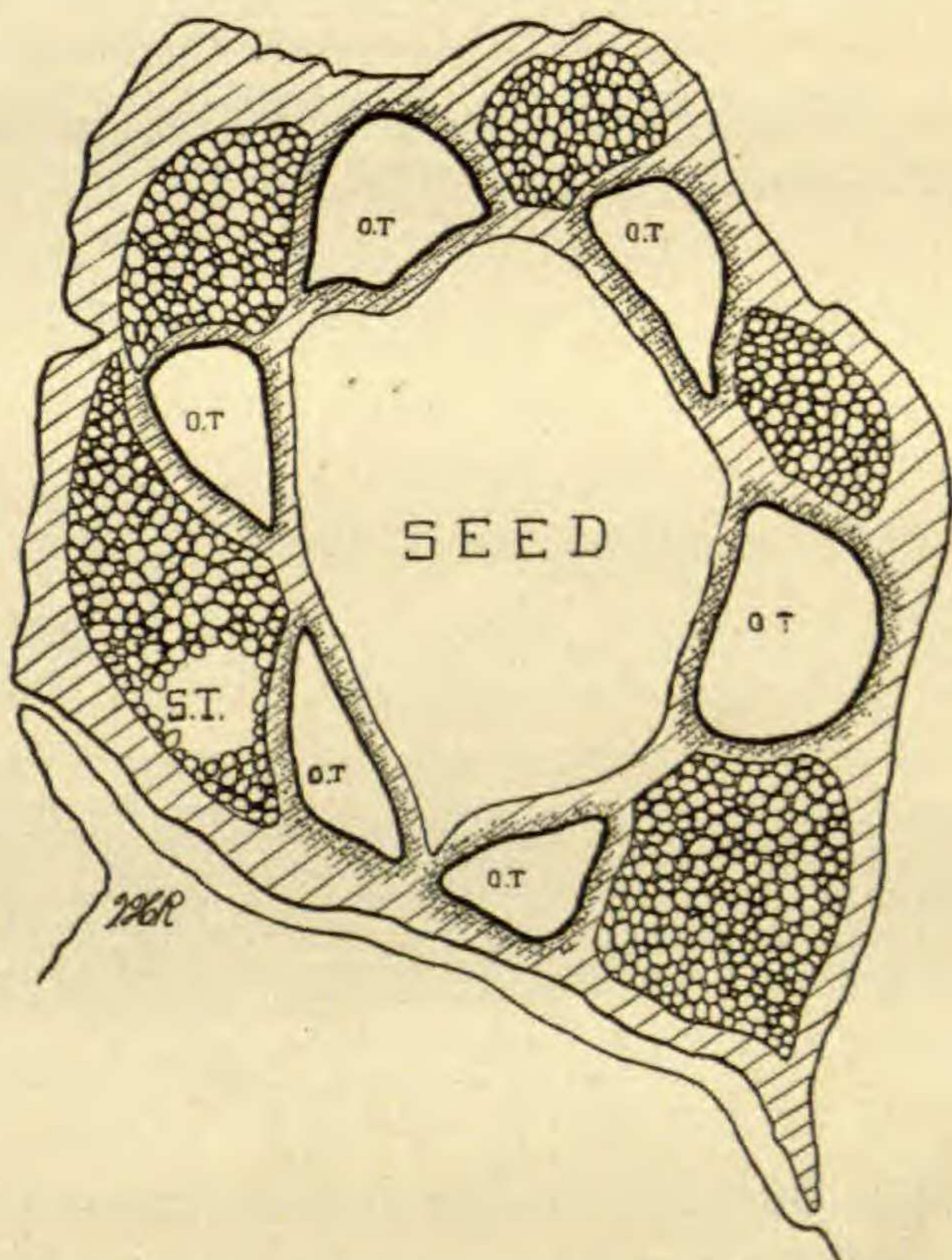


FIG. 1.—*Cicuta cinicola* A. Nels., n. sp.

lance-linear, scarious-margined bractlets, as long as or longer than the pedicels: fruit strongly compressed laterally, the dorsal diameter twice as great as the lateral, about 3 mm. long, the stylopodium low-conical, the styles about 1 mm. long: the carpels somewhat oblique at base and more or less inequilateral: the low rounded ribs in surface display about equally the intervals in which lie the large irregular solitary oil tubes; commissural face plane, rather narrow, with two smaller oil tubes (fig. 1).

<sup>1</sup> The root was not collected, but the impression of the collectors is that it was too large and deep-set to be removed with the means at hand.



This species is singularly like *C. Bolanderi* Wats., except for the much larger leaves and the large broad leaflets. The fruit, however, is much more flattened dorsally and the pericarp much thickened with strengthening tissue. It is extremely improbable, however, that the species heretofore supposed to be restricted to the tide-land marshes of Suisun, Cal., should next appear in the lava lands of Idaho.

The plants are large, stately, well branched, and conspicuous objects among the underbrush that borders Rock Creek, near Twin Falls. The stem at the base is often 4-5 cm. in diameter. The soil in this neighborhood is the well known volcanic ash that has proven so well suited to the production of apples. NELSON and MACBRIDE'S no. 1315, July 25, 1911, is the type.

***Cynomarathrum Macbridei*, n. sp.**—Glabrous: acaulescent: root woody, surmounted by a branched caudex which is clothed

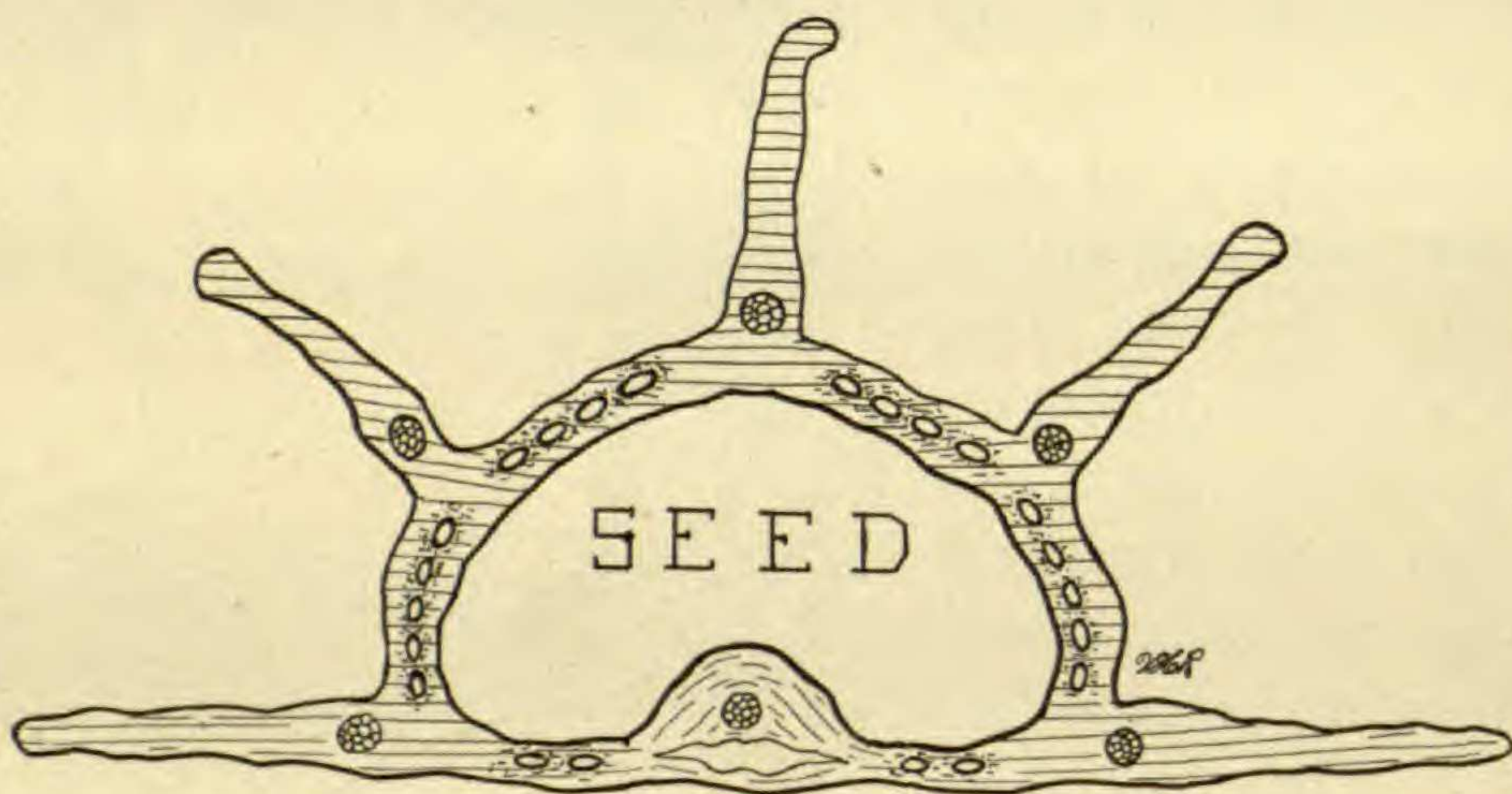


FIG. 2.—*Cynomarathrum Macbridei* A. Nels., n. sp.

with dead leaf bases: leaves narrowly oblong, bipinnate, 3-7 cm. long including the very slender petiole; the pinnae often pinnately cleft; the leaflets elliptic, very numerous and minute, only 1-2 mm. long: scapes 1-3 times as long as the leaves, slender: the flowers closely capitate in a small cluster, white: rays few and short (only a few mm.) even in fruit: pedicels nearly wanting: seeds flattened dorsally, all of the ribs thin-winged, the lateral more than half as broad as the body, the others not much narrower: oil tubes 3-5 in the intervals, 4-8 on the commissural side: calyx lobes evident: the stylopodium low and flat (fig 2).

This species is decidedly distinct from any of the known species in this genus. Some of its characters suggest the genus *Phellopterus*, but the char-



acteristic caudex and the presence of the stylopodium leave scarcely any doubt that it is a *Cynomarathrum*.

Secured by MACBRIDE in the shale slides near the summits of the mountains bordering Bear canyon, in the Lemhi National Forest, July 31, 1911, no. 1502.

**DODECATHEON PAUCIFLORUM shoshonensis**, n. var.—Similar to the species in size, but the root system consisting of a short corm from which the fleshy-fibrous roots seem to detach at the end of the season, at which time there has formed laterally on the corm 1 or 2 elongated bulblike buds. These probably give rise to the next year's plants. The flowers are paler than in the species.

The material at hand is rather scanty and over-mature. Possibly ampler collections may show further differences. The specimens were secured by NELSON and MACBRIDE at Shoshone Falls, July 26, 1911, no. 1362.

**Phacelia firmomarginata**, n. sp.—Annual or possibly biennial,<sup>2</sup> divaricately branched from the base, with assurgent branched stems 1–2 dm. long: pubescence short, fuscous, obscurely glandular, with some small scattering hispid hairs which are most numerous on the calyx: leaves alternate, rather small, 1–4 cm. long, sessile or short-petioled, oblong in outline, pinnately cleft or parted into few ovate or obovate crenulate-toothed lobes: the ebracteate spikes dense even in fruit, 3–6 cm. long: calyx decidedly enlarged in fruit, apparently persistent, cleft to the base and only loosely inclosing mature capsule; sepals narrowly oblong-lanceolate, at maturity about 1 cm. long, reticulated by the veins which run from the stout midrib to the greatly thickened firm hispid margins: corolla minute, pale or white, much shorter than the calyx, the rounded denticulate lobes about half as long as the short broad tube, the vertical folds obsolete; stamens and style well included: capsule ovoid, minutely hispid-pubescent, 3–4 cm. long, 4-seeded: seeds oblong, about 2 mm. long, brown, distinctly pitted.

Probably nearest *P. hispida*, from which it is quite distinct. It is a plant of the desert, being secured by MACBRIDE on dry hillsides near Twilight Gulch in Owyhee County, June 23, 1911, no. 979.

**PHLOX LONGIFOLIA filifolia**, n. var.—The woody caudex short, freely branched: the stems delicately filiform, 1–3 dm. long: leaves filiform, about 1 mm. broad, mostly 3–6 cm. long but often

<sup>2</sup> In full fruit June 23 and the root leaves largely wanting.



longer: bracts, pedicels, and calyx glandular-pubescent: corolla tube one-half longer to nearly twice as long as the calyx lobes.

The strongest character of the variety is its glandular inflorescence and its longer corolla tube. Represented by NELSON and MACBRIDE'S no. 1192 from Ketchum, July 19, 1911, found among the sagebrush on the river bottom lands.

**Gilia Burleyana**, n. sp.—Perennial from a completely lignified, rather large root, with a more or less branched caudex, producing few-many slender leafy suberect stems, 15–30 cm. high: pubescence scanty, soft and crisped, more abundant on stems and inflorescence than on the leaves: leaves alternate, small, numerous, entire, linear, 1-nerved, slightly thickened on the margins, mucronate-tipped, 1–4 cm. long: inflorescence capitate, or of 2 or more heads in a terminal congested corymb: flowers numerous, small and very crowded: calyx tube delicately scarious, twice as long as the greenish hirsute subulate mucronate lobes: corolla white, tubular, with more or less reflexed lobes half as long as the tube; tube less than 5 mm. long, slightly exceeding the calyx, obscurely pubescent within: anthers exserted; filaments inserted in the sinuses, shorter than the corolla lobes: style about equalling the stamens: ovules solitary in the cells, usually only one maturing and producing an inequilaterally distended capsule: seed large, oblong, slightly curved as is also the embryo, developing mucilage and spiracles when wetted.

This rather extraordinarily strong species falls into the section *ELAPHOCERA* Nutt. as arranged by Dr. BRAND in his recent monograph. Until now this section contained no perennials.

This species is named in honor of Mr. D. E. BURLEY, general passenger agent of the Oregon Short Line Railroad Company, whose cordial cooperation and intelligent interest in scientific work is so greatly appreciated. The type of the species is NELSON and MACBRIDE'S no. 1126, from loose white clay banks, a few miles from King Hill, Idaho, July 16, 1911.

**Cryptanthe scoparia**, n. sp.—About 15 cm. high, fastigiately branched from the base and upward, the erect branchlets broom-like in their compactness: pubescence of a few stiff hispid spreading hairs and a rather close layer of short white appressed ones: leaves linear, the hispid hairs from pustulate bases: racemes numerous, 3–6 cm. long at maturity: fruiting calyces numerous and rather crowded on the rachis: sepals very narrow, but thick, bluntly



subulate, 4–5 mm. long in fruit: corolla not seen: nutlets 4, about 2 mm. long, narrowly conical, attached their whole length by an open but narrow groove to a slender-subulate gynobase, the small areola at base scarcely forked, closely muricate with silvery-gray spinellae on a brown background.

Material in this genus is assigned with difficulty. Floral characters give but little clue. Aspect and the nutlets are the most reliable characters. Even these seem to vary much, but after making due allowance for this fact, the present specimens cannot be referred to *C. multicaulis* A. Nels., BOT. GAZ. 30:194, nor to *C. grisea* Greene, Pitt. 5:53, apparently the two nearest allies. Both of these differ essentially as to the nutlets.

The type is NELSON and MACBRIDE'S no. 1311, from sagebrush plains, near Minidoka, July 24, 1911.

PENTSTEMON CONFERTUS Dougl.—Perhaps in no group of *Pentstemon* does a tendency to vary with every change in the ecological conditions manifest itself so fully as in *P. confertus* and its allies. In this group there are three rather strongly marked species: *P. attenuatus*, *P. confertus*, and *P. procerus*, all by DOUGLAS. In recent years several others have been added, some as species and some merely as varieties. How many of these should stand may not yet be said, but certainly not all of them. The undue multiplication of species might be held measurably in check if we could reach some agreement as to the relative importance of the characters ordinarily relied upon in describing these plants. The diagnostic characters mostly used are (1) pubescence in corolla throat and on the sterile filament, (2) shape and size of the corolla and the calyx lobes, (3) glandulosity of the inflorescence, (4) pubescence on the herbage, (5) color of the corolla. Now it is evident that if one phytographer considers one of these as of fundamental value in determining relationship, and another takes one of the other characters as basic, and a third still another, and so on, the number of species that may be described by the rearrangement of these characters becomes merely a problem in permutation. It seems, therefore, that one ought to place first those characters which are probably modified the least by reason of a change of environment, that is, those characters which are fundamentally concerned with the perpetuation of the species should stand first and the others should be serially arranged in the order in which they



relate themselves to this one great fact of reproduction. To illustrate: in this *Pentstemon* group the characters enumerated above may well stand in the order given, for is it not probable that those points of structure concerned with insect visitation come true generation after generation, while such as viscosity, pubescence, and color may change with every change of environment?

How close are the three species enumerated may be seen in the following facts: all have the sterile filament and the lower lip of the corolla more or less bearded; all have the flowers in verticils (two or more); all have calyx lobes more or less scarious-margined and mostly more or less lacerate. If one undertakes to state categorically their differences, about all one can say even of supposedly typical material is:

1. *P. attenuatus*.—Flowers yellow, rather large (20 mm. or more); inflorescence glandular and pubescent.

2. *P. confertus*.—Flowers yellow but small (less than 20 mm. long); inflorescence pubescent or puberulent but not glandular.

3. *P. procerus*.—Flowers not yellow (usually blue-purple), small (less than 20 mm. long); inflorescence neither pubescent nor glandular.

Of the three species, no. 2 seems most readily maintained as a pure and fixed species. The scores of variants may rather satisfactorily be grouped under 1 and 3. This being true, why not let the large-flowered forms, having the other floral characters in harmony, constitute the variety?

*P. attenuatus* **varians**, n. var., without reference to color or the presence or absence of pubescence or glandulosity.

Similarly let the small-flowered variants, having the other floral characters of *P. procerus*, become *P. procerus* **aberrans**, n. comb.

This varietal name was used by M. E. JONES as *P. confertus aberrans*, but the specimens to which the name was applied are clearly of the *P. procerus* group (see Proc. Cal. Acad. 2:5-715).

I am fully aware that this disposition of this troublesome group means the wrecking of several pseudo-species, among which may be named *P. micranthus* Nutt., *P. Owenii* and *P. Rydbergii* A. Nels., *P. pseudoprocerus* Rydb., and a score (more or less) of Dr. GREENE'S species (see vol. I of *Leaflets*).

As excellent examples of *P. attenuatus* **varians**, I name MACBRIDE'S no. 974,



Twilight Gulch, Owyhee County, June 23, 1911, and his no. 1693, Pinehurst, Boise County, August 17, 1911.

**Pentstemon laxus**, n. sp.—Minutely puberulent on stems and foliage, the pedicels and calyx wholly glabrous: stems solitary or few, from a compact mass of thick fibrous roots, slender and weak, 5–8 dm. high: leaves 6–9 pairs, not much reduced above, lanceolate-linear, 5–10 cm. long: flowers in a crowded subcapitate terminal cluster on a peduncle 6–12 cm. long and naked but for 1 or 2 pair of linear approximate bracts; besides the terminal cluster there are rarely produced from the axils of the upper leaves a pair of small pedicellate clusters: calyx short, cleft to the base; its lobes broadly obovate, obtuse, slightly erose, scarious with greenish center especially toward the tip, only 2–3 mm. long or about one-fifth as long as the corolla: corolla a vivid blue, narrowly tubular and only slightly dilated upward, 2-lipped, but the lips short, the longer lower lip densely bearded with long yellow hair; the lobes all very short, suborbicular: stamens glabrous, shorter than the corolla: sterile filament shorter than the fertile, not dilated, blue at tip, tapering and flexed at the very apex, glabrous or with 1–7 deciduous hairs.

This is probably not a very strong species, but it seems fully as distinct from any *Pentstemon* previously discussed as any two of them are from each other. Further, if made merely a variety it would be difficult to say to which one to unite it.

It was found on slopes in rich sagebrush lands. NELSON and MACBRIDE, no. 1196, Ketchum, July 19, 1911.

**PENTSTEMON LINARIOIDES seorsus**, n. var.—Very similar to *P. linarioides* Gray (Bot. Mex. Bound. 112), from which it differs primarily as follows:

Larger in every way, the rootstock notably woody: calyx green and only half as long as the corolla; its lobes ovate, abruptly acute, thick and green at tip, slightly scarious below: corolla glabrous in the throat: the sterile filament longer than the fertile ones and densely pubescent with short yellow hairs for its whole length.

At first it seemed impossible that these specimens from southwestern Idaho should be referable to a species so long known only from southern Colorado, New Mexico, and Arizona, and the above characters led to their being desig-



nated as a new species, *P. seorsus*. On further reflection it seems better, however, to consider them as representing merely a variety.

Collected by MACBRIDE at Twilight Gulch, Owyhee County, in lava fields, June 22, 1911, no. 970.

PENTSTEMON ERIANTHERA **Whitedii**, n. comb.—*P. Whitedii* Piper, BOT. GAZ. 22:490. 1901.

Mr. PIPER, in Contrib. Nat. Herb. 11:500, reduces his species to a synonym of *P. erianthera* Pursh, but this was hardly justified. *P. erianthera Whitedii* is of different habit, producing several stems (instead of only 1 or 2) from a wood taproot; the stems are more slender; the leaves narrower and more numerous; the glandular-pubescent throughout is less pronounced; the sepals are lanceolate, acute (not acuminate); the corolla is light blue without any of the peculiar red found in typical *P. erianthera*. While the pubescence in the throat and on the sterile filament is of the same character, it is far less copious. For these reasons it seems that the northwest forms may well be carried as a variety of the typical Rocky Mountain *P. erianthera*.

NELSON and MACBRIDE'S no. 1421, secured at Mackay, on gravelly sagebrush slopes, July 30, 1911, is typical of the variety.

### CASTILLEJA VISCIA Rydb.

The range of this excellent species is greatly extended by MACBRIDE'S no. 990 from Silver City, Owyhee County. While MACBRIDE'S plants are not quite typical, yet they help to a better understanding of the species. These are more densely glandular and lack the crimson or scarlet tips in bracts and corolla. The corolla is of the right proportions, but smaller.

**Castilleja multisecta**, n. sp.—Freely branched from a woody caudex, the ascending stems sparingly branched, 2–4 dm. high, including the long fruiting spike which is often more than one-third of the plant: pubescence inconspicuous, very softly lanate throughout: leaves 2–4 cm. long, numerous, pinnately parted into 5–7 narrowly linear lobes, the lateral ones sometimes again parted, the undivided base obcuneate and strongly 3-nerved: bracts resembling the leaves but the segments tipped with red, as are also the margins of the galea: calyx more deeply parted above than below, the primary lobes deeply toothed, the thin triangular teeth acute: corolla slender, about 3 cm. long; the galea being about one-third of this; the lower lip very short, saccate, its short broad truncate teeth with a central cusp: seeds beautifully honey-combed on the surface with shallow scarious cell walls.



In spite of the large number of species of *Castilleja* of somewhat similar aspects and with dissected leaves, I do not seem to be able to refer this to any near ally. The type number is NELSON and MACBRIDE'S 1261, secured on disintegrated granite slopes at Ketchum, Blaine County, Idaho, July 21, 1911.

#### MISCELLANEOUS SPECIES

**Eriogonum loganum**, n. sp.—Perennial with woody branched caudex, the current year's stems short, simple, leafy, densely white-lanate as are also the leaves, peduncles, and involucre, assurgent, 1 dm. or less long and terminating in a stout ascending scapelike peduncle 12–25 cm. high: leaves oblanceolate, mostly narrowly so, obtuse or subacute, very white and densely appressed lanate, 2–3 cm. long, on pedicels of about the same length: involucre tubular-campanulate, thin and scarious between the 5 or 6 nerves, 4–5 mm. long, many-flowered: perianth glabrous, pale (greenish-white), directly articulated to the capitate apex of the slightly exerted pedicels; perianth segments thin but with a stout rounded midrib raised on the inside, the outer and inner similar, oblong, obtuse, about 2 mm. long: achene glabrous, 3 mm. long, the ovoid-triangular body not longer than the tapering beak.

This description has been drawn from specimens supplied by CHARLES PIPER SMITH, of Logan, Utah, under no. 1704. It occurs on the dry bench lands or terraces near the college, and is in blossom late in June, with ripe achenes in July. These specimens have been referred to *E. ochrocephalum* Wats., but that species seems quite distinct from this.

**LESQUERELLA LUNELLII lutea**, n. var.—Much like the species, seemingly blossoming even the first year from seed, hence some specimens appear as annuals, some as biennials, and still others as perennials, with slender woody taproot: leaves narrowly oblanceolate: flowers yellow, a little larger than in the species.

This variety is probably only an ecological variation. Dr. LUNELL has now secured the species itself from several localities in Benson County, and these sustain the characters as originally given, including the purple blade of the petals. The variety he has secured in three other counties (Ward, McHenry, and Rolette), and it differs primarily in that the petals are yellow, as one expects them to be in this genus. It would no doubt have been more in harmony with our conception of the genus had the form with yellow petals been discovered and named first, the purple one becoming the variety.



**Astragalus Batesii**, n. sp.—Stems few to several, spreading from the summit of a slender woody taproot, only 1–4 cm. long, very leafy; leaves pinnate, 5–9 cm. long including the slender petiole; leaflets mostly 7–11, narrowly oblong, obtuse, strigose-canescens, greenish and becoming glabrate above: flowers in terminal, capitate, few-several-flowered racemes on very slender peduncles which in fruit equal or exceed the leaves; bracts lance-linear, silky, shorter than the silky calyx: calyx lobes linear, as long as the tube: corolla pale violet, 6–8 mm. long, exceeding the calyx, turning somewhat yellowish with age: pod strictly 1-celled, with straight keel except the tip, narrowly oblong, tapering to the acuminate or cuspidate tip, with short silky appressed pubescence, 12–15 mm. long, when mature lightly transverse rugose.

Rev. J. M. BATES, of Red Cloud, Neb., for many years a careful student of his local flora, contributes the fine specimens upon which this description is based. Having carefully studied the plant in the field and being familiar with the species of *Astragalus* of his range, he submitted this as probably different from any of the described species. In this opinion I must concur, and I therefore take this opportunity to dedicate the species to its discoverer. The species is most nearly allied to *A. lotiflorus* Hook. from which it is at once distinguished by its more appressed pubescence, its violet flowers, and its strictly 1-celled pod in which the dorsal suture is not at all impressed. The type is deposited in the Rocky Mountain Herbarium under the collector's no. 5501, Red Cloud, Neb., May 17 and May 23, 1911. A splendidly fruited specimen secured at the same place, June 9, 1909, is also deposited with the type.

**Mertensia campanulata**, n. sp.—Glabrous throughout, even to the calyx lobes: root thick and semi-fleshy, giving rise to few or solitary erect stems: stems moderately leafy, pale below: root leaves oblong, tapering to both ends, obtusish at apex, cuneate at base, the blade 8–12 cm. long, on petioles usually longer than the blade: stem leaves oblanceolate, tapering to a margined base, the middle ones the largest but these smaller than the root leaves, the uppermost very much reduced: panicle rather small and open, short-peduncled, 1–3 slender accessory peduncles from the uppermost leaves: calyx campanulate, about 5 mm. long, the broadly triangular obtusish lobes not more than one-fourth as long as the tube: corolla deep blue, beautifully veined with brown, 18–20 mm. long, tubular, the tube proper about half of it; the relatively long



throat but slightly dilated; the short lobes (3-4 mm.) abruptly reniformly expanded: anthers linear-oblong; filament inserted at the summit of the tube proper, as broad as the anther but only half as long, the two together as long as the throat: nutlets smooth or nearly so.

This seems to be an unusually strong species. Carelessly examined it might be referred to *M. ciliata*, but in reality it is closer to *M. Macdougallii* Rydb., of Arizona, from which it is clearly distinct and is equally distinct from *M. Leonardi* Rydb. Its calyx is distinctive in this genus.

Mr. C. N. Woods, supervisor of the Sawtooth National Forest, secured it "in moderately moist meadows" and sent in the ample specimens, at the same time calling attention to its salient characters. No. 325, Blaine County, Idaho, 1911.

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